BEAT: Berkeley Emotion and Affect Tracking Dataset
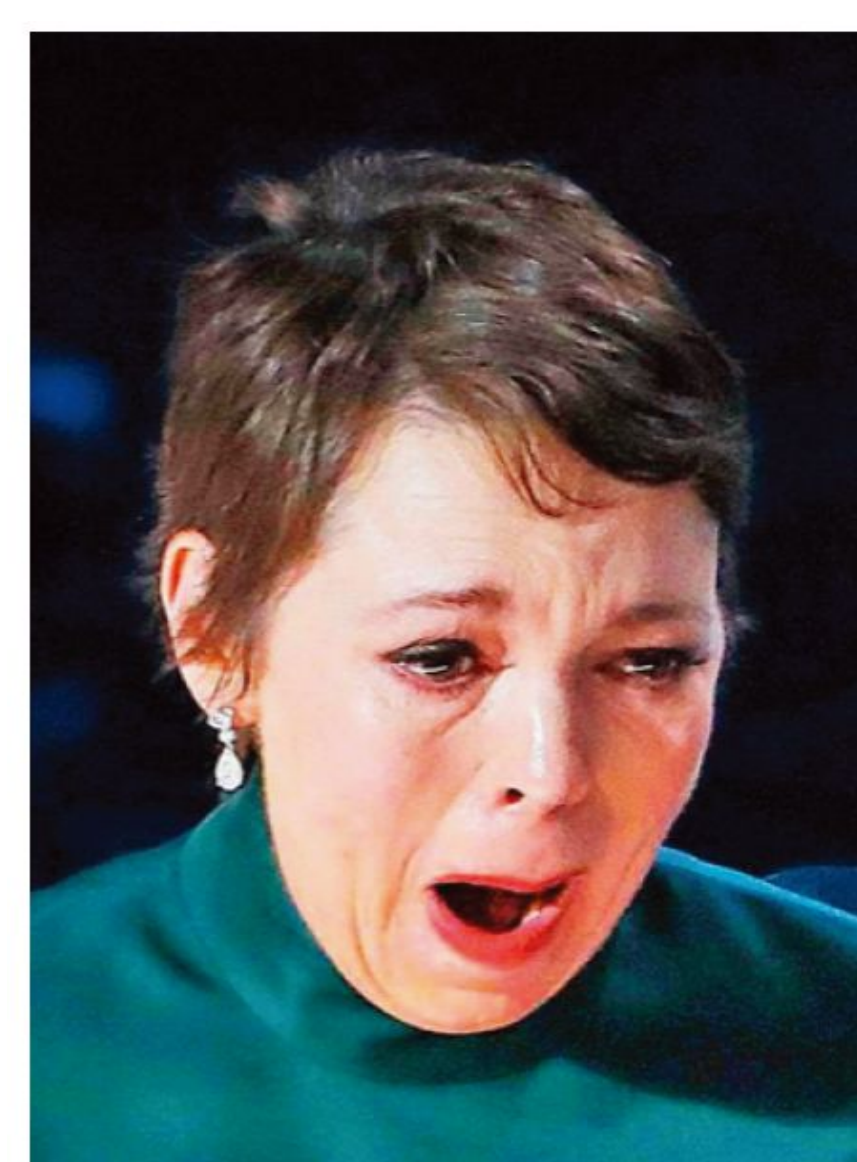
Ana Hernandez[1], Zhihang Ren[1], Jefferson Ortega[1], Yifan Wang[1], Zhimin Chen[1], Yunhui Guo[2], Stella X. Yu[3], David Whitney[1]
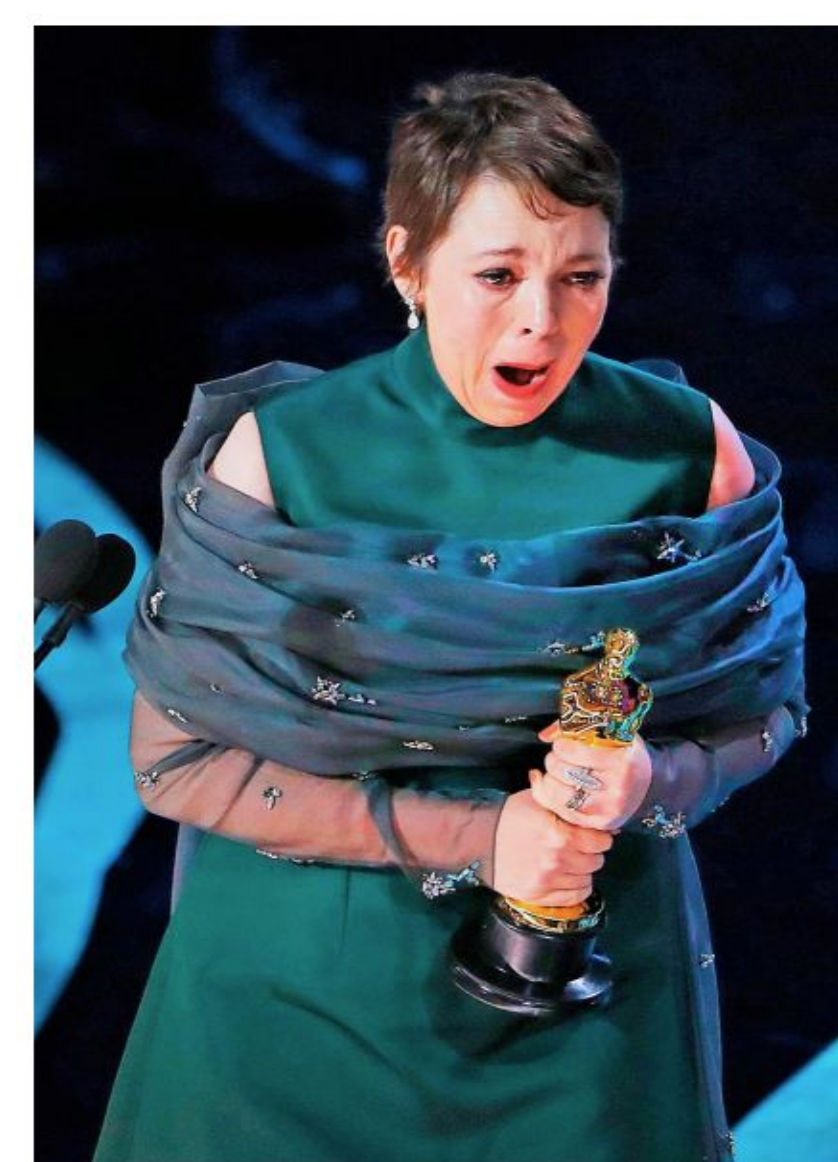
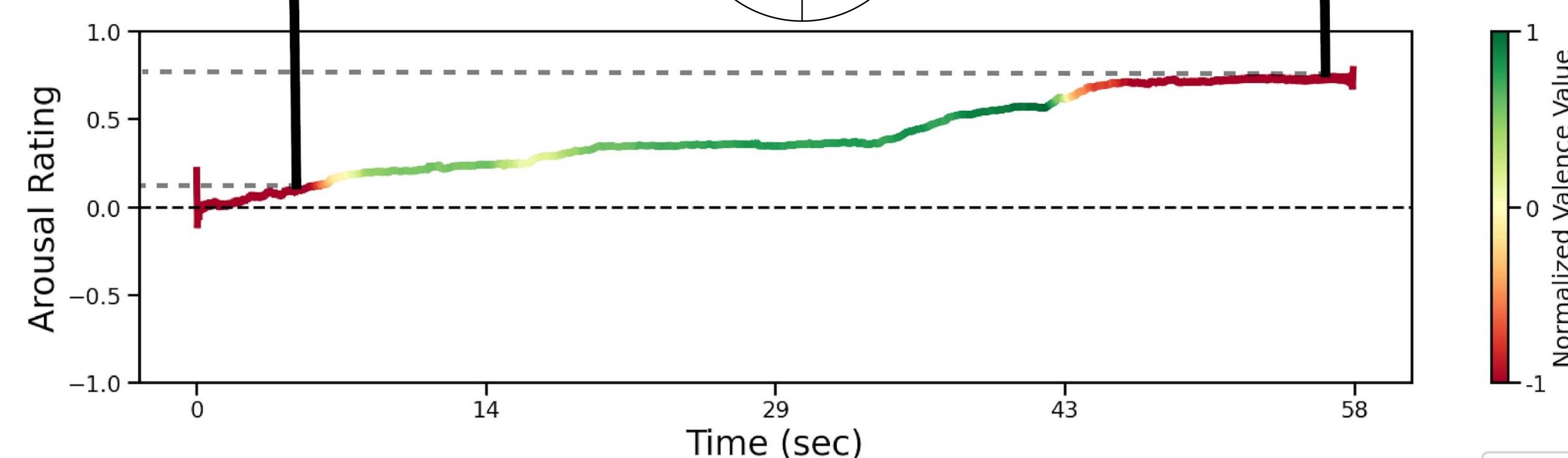[1]University of California, Berkeley, [2]University of Texas at Dallas, [3]University of Michigan, Ann Arbor
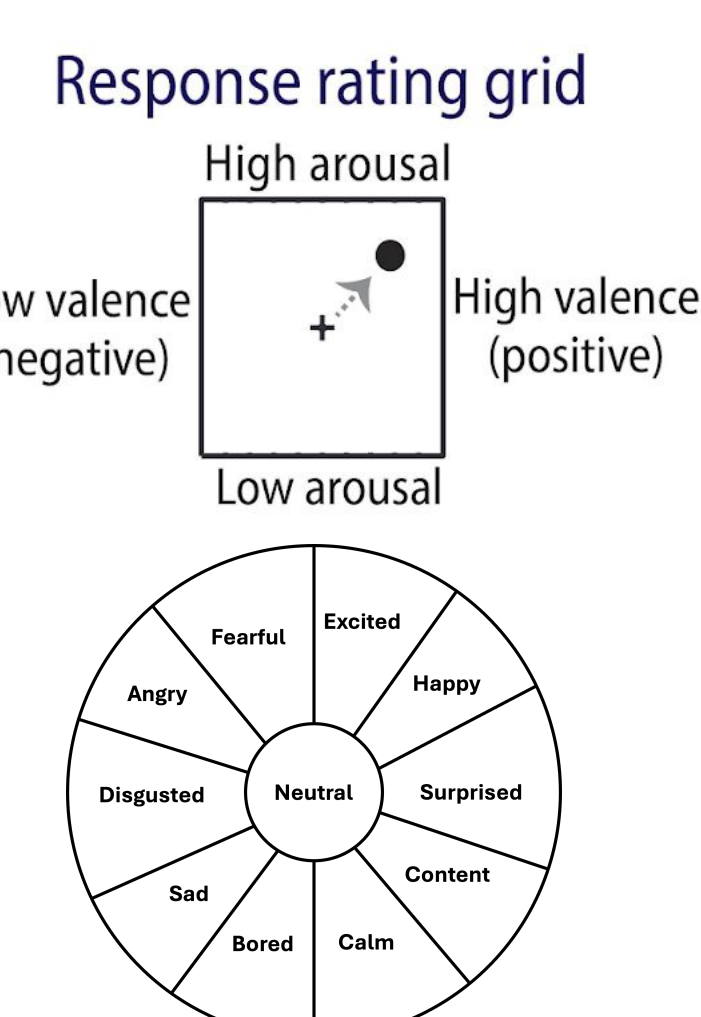
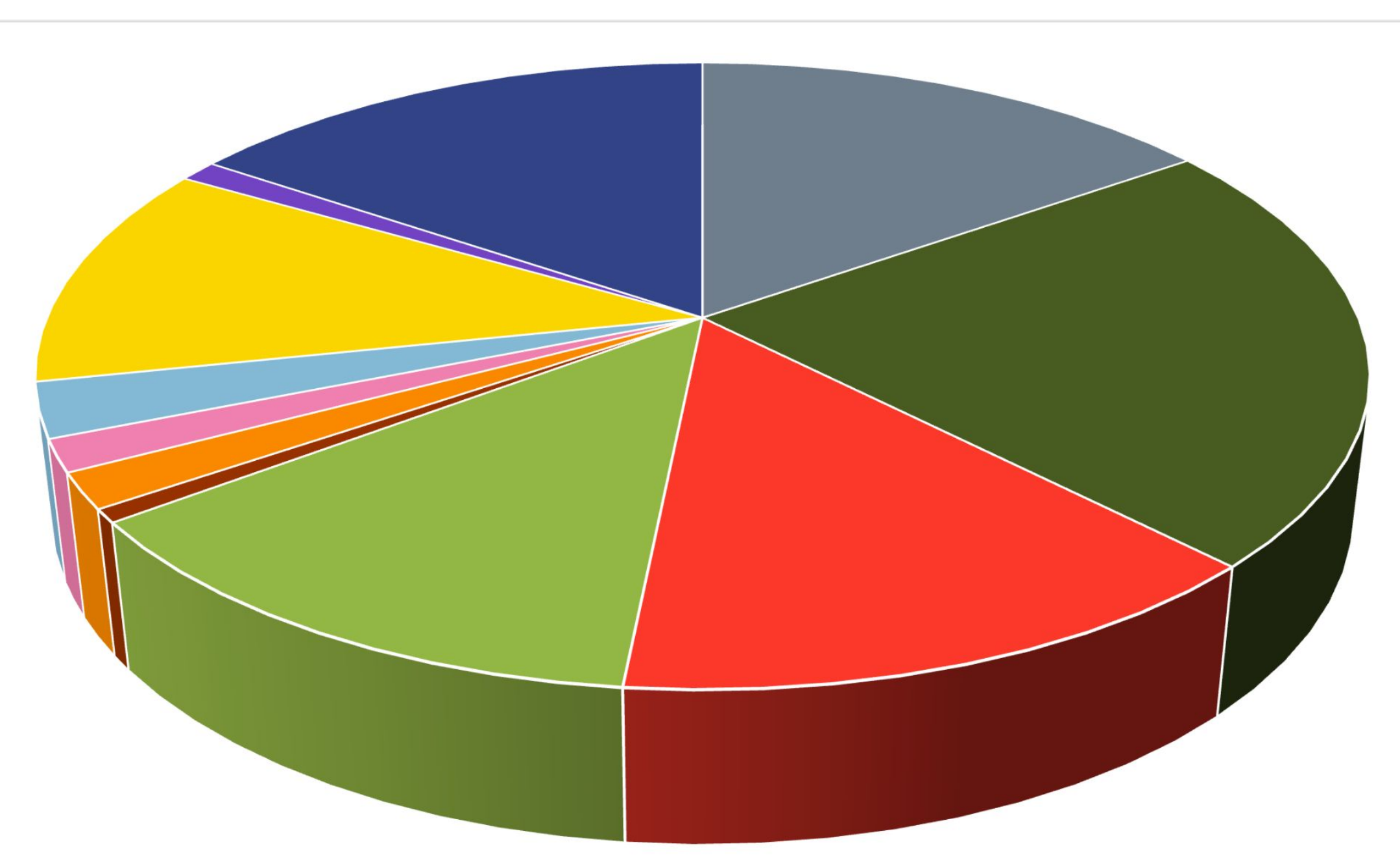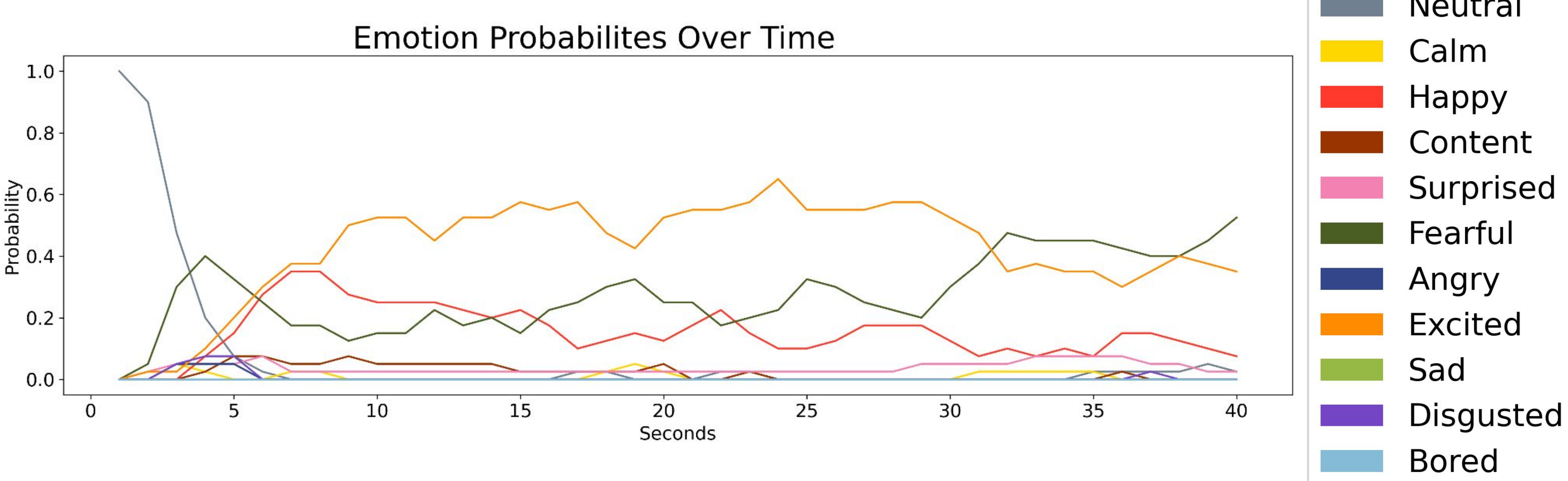## Context is important in emotion recognition

Shocked? ✖
Surprised? ✖ ➡ Ecstatic!! ✔
Sad? ✖

Annotation procedure for dynamic emotions

Response rating grid

High arousal

Low valence (negative) — High valence (positive)

Low arousal

Emotion Probabilites Over Time

Dataset statistics

Attribute	Description
No. of Frames	257,601
No. of Videos	124
Total No. of Annotators	**245**
Avg. No. of Annotators per video	56
Length of Videos	10 s - 2 min 37s
Mean Image Resolution	854×480
Hollywood movies	104
Documentaries	5
Home videos	15

Distribution of Emotions

Neutral
Calm
Happy
Content
Surprised
Fearful
Angry
Excited
Sad
Disgusted
Bored

Comparison to other datasets

Database	Annotation Type	Condition	# videos	Length of Videos	# Annotators	Context
RECOLA	Valence-Arousal (Continuous)	Controlled	46	5min	6	✗
AFEW	7 Basic Facial Expression	In-the-Wild	1,809	0.3s - 5.4s	3	✗
Aff-Wild	Valence-Arousal (Continuous)	In-the-Wild	298	6s - 14min28s	8	✗
Aff-Wild2	Valence-Arousal (Continuous)	In-the-Wild	260	4s - 15min4s	4	✗
CAER	7 Emotion Categories	In-the-Wild	13,201	1s - 5s	6	✓
EMOTIC	Mixed	In-the-Wild Image-based	\	18,316 images	3-5	✓
VEATIC	Valence-Arousal (Continuous)	In-the-Wild	124	10s - 2min37s	192	✓
BEAT (ours)	**Mixed**	**In-the-Wild**	**124**	**10s - 2min37s**	**245**	**✓**

Example Videos with Annotations

Neutral Happy Sad Surprised

Happy Fearful

Neutral Sad Calm Sad